ABSTRACT OF THE DISCLOSURE

Improved techniques are provided for reducing latency in inter-cluster communications within computer systems having a plurality of multi-processor clusters. The local nodes of each cluster include a plurality of processors and an interconnection controller. Intra-cluster links are formed between the local nodes, including the interconnection controller, within a cluster. Inter-cluster links are formed between interconnection controllers of different clusters. Intra-cluster packets may be encapsulated as inter-cluster packets and stored in a transmission buffer pending transmission on an inter-cluster link. When the transmission buffer is empty, a control character is transmitted on an inter-cluster link. The control character is not stored in the transmission buffer or in a reception buffer, but instead is dropped. Clock data may be embedded in symbols sent on each bit lane of the inter-cluster links, including the symbol(s) of the control character.